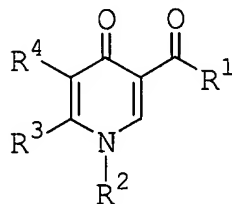


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IN THE CLAIMS

1 (currently amended): A compound having formula (I),



(I),

or a salt thereof, in which

R^1 is -OH, -OR⁵, -NH₂, -NHR⁵, or -N(R⁵)₂;

R^2 is hydrogen, tert-butyl, -O(allyl),

(4-methoxyphenyl)methyl, or (2,4-dimethoxyphenyl)methyl;

R^3 and R^4 together are thiazole ~~or pyrimidine, each of~~ which is substituted with one or two independently selected

R^6 , R^7 , R^8 , R^9 , R^{10} , R^{11} , -OR⁶, -O(CH₂)R⁷, -O(CH₂)R⁸, -OR⁹,
-O(CH₂)R¹⁰, -O(CH₂)R¹¹, -SR⁶, -S(CH₂)R⁷, -S(CH₂)R⁸, -SR⁹,
-S(CH₂)R¹⁰, -S(CH₂)R¹¹, -S(O)R⁶, -S(O)(CH₂)R⁷, -S(O)(CH₂)R⁸,
-S(O)R⁹, -S(O)(CH₂)R¹⁰, -S(O)(CH₂)R¹¹, -SO₂R⁶, -SO₂(CH₂)R⁷,
-SO₂(CH₂)R⁸, -SO₂R⁹, -SO₂(CH₂)R¹⁰, -SO₂(CH₂)R¹¹, -CO(O)R⁶,
-C(O)OR⁷, -C(O)OR⁸, -CO(O)R⁹, -C(O)OR¹⁰, -C(O)OR¹¹, -NH₂,
-NHR⁶, -NHR⁷, -NHR⁸, -NHR⁹, -NHR¹⁰, -NHR¹¹, -NHC(O)R⁶,
-NHC(O)R⁷, -NHC(O)R⁸, -NHC(O)R⁹, -NHC(O)R¹⁰, -NHC(O)R¹¹,
-NHC(O)OR⁶, -NHC(O)OR⁷, -NHC(O)OR⁸, -NHC(O)OR⁹, -NHC(O)OR¹⁰,
-NHC(O)OR¹¹, -NHSO₂R⁶, -NHSO₂R⁷, -NHSO₂R⁸, -NHSO₂R⁹, -NHSO₂R¹⁰,
-NHSO₂R¹¹, -N(R⁶)₂, -N(R⁷)₂, -N(R⁸)₂, -N(R⁹)₂, -N(R¹⁰)₂, or
-N(R¹¹)₂ substituents;

R^5 is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl,
or C₆-alkyl;

R^6 is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl,
or C₆-alkyl, each of which is unsubstituted or substituted

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with one -F, -Cl, -Br, -I, -OH, -OR^{6a}, -NH₂, -NHR^{6a}, -N(R^{6a})₂, R¹², R¹³, or R¹⁴ substituent;

R^{6a} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, C₆-alkyl, or R^{6b};

R^{6b} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl, each of which is substituted with one or two independently selected -F, -Cl, -Br, -I, -OH, =O, -OR^{6c}, -NH₂, -NHR^{6c}, -N(R^{6c})₂, or R^{6d} substituents;

R^{6c} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl;

R^{6d} is phenyl, furanyl, imidazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridyl, pyrimidinyl, pyrrolyl, tetraazolyl, thiazolyl, thiophenyl, or 1,2,3-triazolyl;

R⁷ is C₂-alkenyl, C₃-alkenyl, C₄-alkenyl, C₅-alkenyl, or C₆-alkenyl, each of which is unsubstituted or substituted

with one -F, -Cl, -Br, -I, -OH, -OR^{7a}, -NH₂, -NHR^{7a}, -N(R^{7a})₂, R¹², R¹³, or R¹⁴ substituent;

R^{7a} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl, or R^{7b};

R^{7b} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl, each of which is substituted with one or two independently selected -F, -Cl, -Br, -I, -OH, =O, -OR^{7c}, -NH₂, -NHR^{7c}, -N(R^{7c})₂, or R^{7d} substituents;

R^{7c} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl;

R^{7d} is phenyl, furanyl, imidazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridyl, pyrimidinyl, pyrrolyl, tetraazolyl, thiazolyl, thiophenyl, or 1,2,3-triazolyl;

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R^8 is C_2 -alkynyl, C_3 -alkynyl, C_4 -alkynyl, C_5 -alkynyl, or C_6 -alkynyl, each of which is unsubstituted or substituted with one $-F$, $-Cl$, $-Br$, $-I$, $-OH$, $-OR^{8a}$, $-NH_2$, $-NHR^{8a}$, $-N(R^{8a})_2$, R^{12} , R^{13} , or R^{14} substituent;

R^{8a} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, C_6 -alkyl, or R^{8b} ;

R^{8b} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl, each of which is substituted with one or two independently selected $-F$, $-Cl$, $-Br$, $-I$, $-OH$, $=O$, $-OR^{8c}$, $-NH_2$, $-NHR^{8c}$, $-N(R^{8c})_2$, or R^{8d} substituents;

R^{8c} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl;

R^{8d} is phenyl, furanyl, imidazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridyl, pyrimidinyl, pyrrolyl, tetraazolyl, thiazolyl, thiophenyl, or 1,2,3-triazolyl;

R^9 is phenyl which is unfused or fused with cyclopentane, cyclohexane, cyclopentene, cyclohexene, benzene, naphthylene, furan, imidazole, isothiazole, isoxazole, oxazole, pyrazine, pyrazole, pyridazine, pyridine, pyrimidine, pyrrole, thiazole, or thiophene, in which each ring is unsubstituted or substituted with one or two or three or four independently selected R^{9a} , $-F$, $-Cl$, $-Br$, $-I$, $-CN$, $-OH$, $-OR^{9a}$, $-NH_2$, $-NHR^{9a}$, $-N(R^{9a})_2$, $-NO_2$, $-CF_3$, $-OCF_3$, $-SR^{9a}$, $-S(O)R^{9a}$, $-SO_2R^{9a}$, $-C(O)R^{9a}$, $-C(O)OH$, $-C(O)OR^{9a}$, $-C(O)NH_2$, $-C(O)NHR^{9a}$, $-C(O)N(R^{9a})_2$, R^{15} , or R^{16} substituents;

R^{9a} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, C_6 -alkyl, or R^{9b} ;

R^{9b} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl, each of which is substituted with one or two

independently selected -F, -Cl, -Br, -I, -OH, =O, -OR^{9c}, -NH₂, -NHR^{9c}, -N(R^{9c})₂, or R^{9d} substituents;

R^{9c} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl;

R^{9d} is phenyl, furanyl, imidazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridyl, pyrimidinyl, pyrrolyl, tetraazolyl, thiazolyl, thiophenyl, or 1,2,3-triazolyl;

R¹⁰ is furanyl, imidazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridyl, pyrimidinyl, pyrrolyl, tetraazolyl, thiazolyl, thiophenyl, or 1,2,3-triazolyl, each of which is unfused or fused with benzene, naphthylene, furan, imidazole, isothiazole, isoxazole, oxazole, pyrazine, pyrazole, pyridazine, pyridine, pyrimidine, pyrrole, thiazole, or thiophene, in which each ring is unsubstituted or substituted with one or two or three independently selected R^{10a}, -F, -Cl, -Br, -I,

-CN, -OH, -OR^{10a}, -NH₂, -NHR^{10a}, -N(R^{10a})₂, -NO₂, -CF₃, -OCF₃, -SR^{10a}, -S(O)R^{10a}, -SO₂R^{10a}, -C(O)R^{10a}, -C(O)OH, -C(O)OR^{10a}, -C(O)NH₂, -C(O)NHR^{10a}, -C(O)N(R^{10a})₂, R¹⁵, or R¹⁶

substituents;

R^{10a} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl, or R^{10b};

R^{10b} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl, each of which is substituted with one or two independently selected -F, -Cl, -Br, -I, -OH, =O, -OR^{10c}, -NH₂, -NHR^{10c}, -N(R^{10c})₂, or R^{10d} substituents;

R^{10c} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl;

R^{10d} is phenyl, furanyl, imidazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl,

pyridyl, pyrimidinyl, pyrrolyl, tetraazolyl, thiazolyl, thiophenyl, or 1,2,3-triazolyl;

R^{11} is aziridinyl, azetidiny, pyrrolidinyl, piperidinyl, or piperazinyl, each of which is unfused or fused with benzene, aziridine, azetidine, pyrrolidine, piperidine, or piperazine, in which each ring is unsubstituted or substituted with one or two or three independently selected R^{11a} , -F, -Cl, -Br, -I, -CN, -OH, =O, -OR^{11a}, -NH₂, -NHR^{11a}, -N(R^{11a})₂, -NO₂, -CF₃, -OCF₃, -SR^{11a}, -S(O)R^{11a}, -SO₂R^{11a}, -C(O)R^{11a}, -C(O)OH, -C(O)OR^{11a}, -C(O)NH₂, -C(O)NHR^{11a}, -C(O)N(R^{11a})₂, R^{15} , or R^{16} substituents;

R^{11a} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, C₆-alkyl, or R^{11b} ;

R^{11B} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl, each of which is substituted with one or two independently selected -F, -Cl, -Br, -I, -OH, =O, -OR^{11c}, -NH₂, -NHR^{11c}, -N(R^{11c})₂, or R^{11d} substituents;

R^{11c} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl;

R^{11d} is phenyl, furanyl, imidazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridyl, pyrimidinyl, pyrrolyl, tetraazolyl, thiazolyl, thiophenyl, or 1,2,3-triazolyl;

R^{12} is phenyl which is unfused or fused with cyclopentane, cyclohexane, cyclopentene, cyclohexene, benzene, naphthylene, furan, imidazole, isothiazole, isoxazole, oxazole, pyrazine, pyrazole, pyridazine, pyridine, pyrimidine, pyrrole, thiazole, or thiophene, in which each ring is unsubstituted or substituted with one or two or three or four independently selected R^{12a} , -F, -Cl, -Br, -I, -CN, -OH, -OR^{12a}, -NH₂, -NHR^{12a}, -N(R^{12a})₂, -NO₂,

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$-\text{CF}_3$, $-\text{OCF}_3$, $-\text{SR}^{12a}$, $-\text{S}(\text{O})\text{R}^{12a}$, $-\text{SO}_2\text{R}^{12a}$, $-\text{C}(\text{O})\text{R}^{12a}$, $-\text{C}(\text{O})\text{OH}$,
 $-\text{C}(\text{O})\text{OR}^{12a}$, $-\text{C}(\text{O})\text{NH}_2$, $-\text{C}(\text{O})\text{NHR}^{12a}$, $-\text{C}(\text{O})\text{N}(\text{R}^{12a})_2$, R^{15} , or R^{16}
substituents;

R^{12a} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl,
 C_6 -alkyl, or R^{12b} ;

R^{12b} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl,
or C_6 -alkyl, each of which is substituted with one or two
independently selected $-\text{F}$, $-\text{Cl}$, $-\text{Br}$, $-\text{I}$, $-\text{OH}$, $=\text{O}$, $-\text{OR}^{12c}$,
 $-\text{NH}_2$, $-\text{NHR}^{12c}$, $-\text{N}(\text{R}^{12c})_2$, or R^{12d} substituents;

R^{12c} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl,
or C_6 -alkyl;

R^{12d} is phenyl, furanyl, imidazolyl, isothiazolyl,
isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl,
pyridyl, pyrimidinyl, pyrrolyl, tetraazolyl, thiazolyl,
thiophenyl, or 1,2,3-triazolyl;

R^{13} is furanyl, imidazolyl, isothiazolyl, isoxazolyl,
~~oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridyl,~~
pyrimidinyl, pyrrolyl, tetraazolyl, thiazolyl, thiophenyl,
or 1,2,3-triazolyl, each of which is unfused or fused with
benzene, naphthylene, furan, imidazole, isothiazole,
isoxazole, oxazole, pyrazine, pyrazole, pyridazine,
pyridine, pyrimidine, pyrrole, thiazole, or thiophene, in
which each ring is unsubstituted or substituted with one or
two or three independently selected R^{13a} , $-\text{F}$, $-\text{Cl}$, $-\text{Br}$, $-\text{I}$,
 $-\text{CN}$, $-\text{OH}$, $-\text{OR}^{13a}$, $-\text{NH}_2$, $-\text{NHR}^{13a}$, $-\text{N}(\text{R}^{13a})_2$, $-\text{NO}_2$, $-\text{CF}_3$, $-\text{OCF}_3$,
 $-\text{SR}^{13a}$, $-\text{S}(\text{O})\text{R}^{13a}$, $-\text{SO}_2\text{R}^{13a}$, $-\text{C}(\text{O})\text{R}^{13a}$, $-\text{C}(\text{O})\text{OH}$, $-\text{C}(\text{O})\text{OR}^{13a}$,
 $-\text{C}(\text{O})\text{NH}_2$, $-\text{C}(\text{O})\text{NHR}^{13a}$, $-\text{C}(\text{O})\text{N}(\text{R}^{13a})_2$, R^{15} , or R^{16}
substituents;

R^{13a} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl,
 C_6 -alkyl, or R^{13b} ;

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R^{13b} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl, each of which is substituted with one or two independently selected -F, -Cl, -Br, -I, -OH, =O, $-OR^{13c}$, $-NH_2$, $-NHR^{13c}$, $-N(R^{13c})_2$, or R^{13d} substituents;

R^{13c} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl;

R^{13d} is phenyl, furanyl, imidazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridyl, pyrimidinyl, pyrrolyl, tetraazolyl, thiazolyl, thiophenyl, or 1,2,3-triazolyl;

R^{14} is aziridinyl, azetidiny, pyrrolidinyl, piperidinyl, or piperazinyl, each of which is unfused or fused with benzene, aziridine, azetidine, pyrrolidine, piperidine, or piperazine, in which each ring is unsubstituted or substituted with one or two or three independently selected R^{14a} , -F, -Cl, -Br, -I, -CN, -OH, =O, $-OR^{14a}$, $-NH_2$, $-NHR^{14a}$, $-N(R^{14a})_2$, $-NO_2$, $-CF_3$, $-OCF_3$, $-SR^{14a}$,

$-S(O)R^{14a}$, $-SO_2R^{14a}$, $-C(O)R^{14a}$, $-C(O)OH$, $-C(O)OR^{14a}$, $-C(O)NH_2$, $-C(O)NHR^{14a}$, $-C(O)N(R^{14a})_2$, R^{15} , or R^{16} substituents;

R^{14a} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, C_6 -alkyl, or R^{14b} ;

R^{14b} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl which is substituted with one or two independently selected -F, -Cl, -Br, -I, -OH, =O, $-OR^{14c}$, $-NH_2$, $-NHR^{14c}$, $-N(R^{14c})_2$, or R^{14d} substituents;

R^{14c} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl;

R^{14d} is phenyl, furanyl, imidazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl,

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pyridyl, pyrimidinyl, pyrrolyl, tetraäzolylyl, thiazolylyl, thiophenyl, or 1,2,3-triazolylyl;

R^{15} is phenyl which is unsubstituted or substituted with one or two or three or four independently selected R^{15a} , -F, -Cl, -Br, -I, -CN, -OH, -OR^{15a}, -NH₂, -NHR^{15a}, -N(R^{15a})₂, -NO₂, -CF₃, -OCF₃, -SR^{15a}, -S(O)R^{15a}, -SO₂R^{15a}, -C(O)R^{15a}, -C(O)OH, -C(O)OR^{15a}, -C(O)NH₂, -C(O)NHR^{15a}, or -C(O)N(R^{15a})₂ substituents;

R^{15a} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl, or R^{15b};

R^{15b} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl, each of which is substituted with one or two independently selected -F, -Cl, -Br, -I, -OH, =O, -OR^{15c}, -NH₂, -NHR^{15c}, -N(R^{15c})₂, or R^{15d} substituents;

R^{15c} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl;

R^{15d} is phenyl, furanyl, imidazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridyl, pyrimidinyl, pyrrolyl, tetraäzolylyl, thiazolyl, thiophenyl, or 1,2,3-triazolyl;

R^{16} is furanyl, imidazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridyl, pyrimidinyl, pyrrolyl, tetraäzolylyl, thiazolyl, thiophenyl, or 1,2,3-triazolyl, each of which is unsubstituted or substituted with one or two or three independently selected R^{16a} , -F, -Cl, -Br, -I, -CN, -OH, -OR^{16a}, -NH₂, -NHR^{16a}, -N(R^{16a})₂, -NO₂, -CF₃, -OCF₃, -SR^{16a}, -S(O)R^{16a}, -SO₂R^{16a}, -C(O)R^{16a}, -C(O)OH, -C(O)OR^{16a}, -C(O)NH₂, -C(O)NHR^{16a}, or -C(O)N(R^{16a})₂ substituents;

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R^{16a} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, C_6 -alkyl, or R^{16b} ;

R^{16b} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl, each of which is substituted with one or two independently selected $-F$, $-Cl$, $-Br$, $-I$, $-OH$, $-OR^{16c}$, $=O$, $-NH_2$, $-NHR^{16c}$, $-N(R^{16c})_2$, or R^{16d} substituents;

R^{16c} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl; and

R^{16d} is phenyl, furanyl, imidazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridyl, pyrimidinyl, pyrrolyl, tetraazolyl, thiazolyl, thiophenyl, or 1,2,3-triazolyl.

2 (currently amended): A compound of claim 1 having formula (I), or a salt thereof, in which R^1 is $-OH$, $-OR^5$, $-NH_2$, $-NHR^5$, or $-N(R^5)_2$;

R^2 is hydrogen, tert-butyl, $-O(allyl)$, (4-methoxyphenyl)methyl, or (2,4-dimethoxyphenyl)methyl;

R^3 and R^4 together are thiazole ~~or pyrimidine~~, each of which is substituted with one or two independently selected R^6 , R^9 , R^{10} , R^{11} , $-OR^6$, $-OR^9$, $-O(CH_2)R^{10}$, $-O(CH_2)R^{11}$, $-SR^6$, $-SR^9$, $-S(CH_2)R^{10}$, $-S(CH_2)R^{11}$, $-S(O)R^6$, $-S(O)R^9$, $-S(O)(CH_2)R^{10}$, $-S(O)(CH_2)R^{11}$, $-SO_2R^6$, $-SO_2R^9$, $-SO_2(CH_2)R^{10}$, $-SO_2(CH_2)R^{11}$, $-CO(O)R^6$, $-CO(O)R^9$, $-C(O)OR^{10}$, $-C(O)OR^{11}$, $-NH_2$, $-NHR^6$, $-NHR^9$, $-NHR^{10}$, $-NHR^{11}$, $-NHC(O)R^6$, $-NHC(O)R^9$, $-NHC(O)R^{10}$, $-NHC(O)R^{11}$, $-NHC(O)OR^6$, $-NHC(O)OR^9$, $-NHC(O)OR^{10}$, $-NHC(O)OR^{11}$, $-NHSO_2R^6$, $-NHSO_2R^9$, $-NHSO_2R^{10}$, $-NHSO_2R^{11}$, $-N(R^6)_2$, $-N(R^9)_2$, $-N(R^{10})_2$, or $-N(R^{11})_2$ substituents;

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R^5 is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl;

R^6 is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl, each of which is unsubstituted or substituted with one -F, -Cl, -Br, -I, -OH, -OR^{6a}, -NH₂, -NHR^{6a}, -N(R^{6a})₂, R¹², R¹³, or R¹⁴ substituent;

R^{6a} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, C_6 -alkyl, or R^{6b};

R^{6b} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl, each of which is substituted with one or two independently selected -F, -Cl, -Br, -I, -OH, =O, -OR^{6c}, -NH₂, -NHR^{6c}, or -N(R^{6c})₂ substituents;

R^{6c} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl;

R^9 is phenyl which is unsubstituted or substituted with one or two or three or four independently selected R^{9a}, -F,

-Cl, -Br, -I, -CN, -OH, -OR^{9a}, -NH₂, -NHR^{9a}, -N(R^{9a})₂, -NO₂,

-CF₃, -OCF₃, -SR^{9a}, -S(O)R^{9a}, -SO₂R^{9a}, -C(O)R^{9a}, -C(O)OH, -----

-C(O)OR^{9a}, -C(O)NH₂, -C(O)NHR^{9a}, -C(O)N(R^{9a})₂, R¹⁵, or R¹⁶

substituents;

R^{9a} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl, or R^{9b};

R^{9b} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl, each of which is substituted with one or two independently selected -F, -Cl, -Br, -I, -OH, =O, -OR^{9c}, -NH₂, -NHR^{9c}, or -N(R^{9c})₂ substituents;

R^{9c} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl;

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R^{10} is furanyl, imidazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridyl, pyrimidinyl, pyrrolyl, tetraazolyl, thiazolyl, thiophenyl, or 1,2,3-triazolyl, each of which is unsubstituted or substituted with one or two or three independently selected R^{10a} , -F, -Cl, -Br, -I, -CN, -OH, -OR^{10a}, -NH₂, -NHR^{10a}, -N(R^{10a})₂, -NO₂, -CF₃, -OCF₃, -SR^{10a}, -S(O)R^{10a}, -SO₂R¹⁰, -C(O)R^{10a}, -C(O)OH, -C(O)OR^{10a}, -C(O)NH₂, -C(O)NHR^{10a}, -C(O)N(R^{10a})₂, R^{15} , or R^{16} substituents;

R^{10a} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, C₆-alkyl, or R^{10b} ;

R^{10b} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl, each of which is substituted with one or two independently selected -F, -Cl, -Br, -I, -OH, =O, -OR^{10c}, -NH₂, -NHR^{10c}, or -N(R^{10c})₂, substituents;

R^{10c} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl;

R^{11} is aziridinyl, azetidiny, pyrrolidinyl, piperidinyl, or piperazinyl, each of which is unfused or fused with benzene, aziridine, azetidine, pyrrolidine, piperidine, or piperazine, each of which is unsubstituted or substituted with one or two or three independently selected R^{11a} , -F, -Cl, -Br, -I, -CN, -OH, =O, -OR^{11a}, -NH₂, -NHR^{11a}, -N(R^{11a})₂, -NO₂, -CF₃, -OCF₃, -SR^{11a}, -S(O)R^{11a}, -SO₂R^{11a}, -C(O)R^{11a}, -C(O)OH, -C(O)OR^{11a}, -C(O)NH₂, -C(O)NHR^{11a}, -C(O)N(R^{11a})₂, R^{15} , or R^{16} substituents;

R^{11a} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, C₆-alkyl, or R^{11b} ;

R^{11b} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl, each of which is substituted with one or two

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independently selected -F, -Cl, -Br, -I, -OH, =O, -OR^{11c}, -NH₂, -NHR^{11c}, or -N(R^{11c})₂, substituents;

R^{11c} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl;

R¹² is phenyl which is unsubstituted or substituted with one or two or three or four independently selected R^{12a}, -F, -Cl, -Br, -I, -CN, -OH, -OR^{12a}, -NH₂, -NHR^{12a}, -N(R^{12a})₂, -NO₂, -CF₃, -OCF₃, -SR^{12a}, -S(O)R^{12a}, -SO₂R^{12a}, -C(O)R^{12a}, -C(O)OH, -C(O)OR^{12a}, -C(O)NH₂, -C(O)NHR^{12a}, -C(O)N(R^{12a})₂, R¹⁵, or R¹⁶ substituents;

R^{12a} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl, or R^{12b};

R^{12b} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl, each of which is substituted with one or two independently selected -F, -Cl, -Br, -I, -OH, =O, -OR^{12c}, -NH₂, -NHR^{12c}, or -N(R^{12c})₂ substituents;

R^{12c} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl;

R¹³ is furanyl, imidazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridyl, pyrimidinyl, pyrrolyl, tetraazolyl, thiazolyl, thiophenyl, or 1,2,3-triazolyl, each of which is unsubstituted or substituted with one or two or three independently selected R^{13a}, -F, -Cl, -Br, -I, -CN, -OH, -OR^{13a}, -NH₂, -NHR^{13a}, -N(R^{13a})₂, -NO₂, -CF₃, -OCF₃, -SR^{13a}, -S(O)R^{13a}, -SO₂R^{13a}, -C(O)R^{13a}, -C(O)OH, -C(O)OR^{13a}, -C(O)NH₂, -C(O)NHR^{13a}, -C(O)N(R^{13a})₂, R¹⁵, or R¹⁶ substituents;

R^{13a} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, C₆-alkyl, or R^{13b};

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R^{13b} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl, each of which is substituted with one or two independently selected -F, -Cl, -Br, -I, -OH, =O, $-OR^{13c}$, $-NH_2$, $-NHR^{13c}$, or $-N(R^{13c})_2$ substituents;

R^{13c} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl;

R^{14} is aziridinyl, azetidiny, pyrrolidinyl, piperidinyl, or piperazinyl, each of which is unsubstituted or substituted with one or two or three independently selected R^{14a} , -F, -Cl, -Br, -I, -CN, -OH, =O, $-OR^{14a}$, $-NH_2$, $-NHR^{14a}$, $-N(R^{14a})_2$, $-NO_2$, $-CF_3$, $-OCF_3$, $-SR^{14a}$, $-S(O)R^{14a}$, $-SO_2R^{14a}$, $-C(O)R^{14a}$, $-C(O)OH$, $-C(O)OR^{14a}$, $-C(O)NH_2$, $-C(O)NHR^{14a}$, $-C(O)N(R^{14a})_2$, R^{16} , or R^{17} substituents;

R^{14a} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, C_6 -alkyl, or R^{14b} ;

R^{14b} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl which is substituted with one or two independently selected -F, -Cl, -Br, -I, -OH, =O, $-OR^{14c}$, $-NH_2$, $-NHR^{14c}$, or $-N(R^{14c})_2$ substituents;

R^{14c} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl;

R^{15} is phenyl which is unsubstituted or substituted with one or two or three or four independently selected R^{15a} , -F, -Cl, -Br, -I, -CN, -OH, $-OR^{15a}$, $-NH_2$, $-NHR^{15a}$, $-N(R^{15a})_2$, $-NO_2$, $-CF_3$, $-OCF_3$, $-SR^{15a}$, $-S(O)R^{15a}$, $-SO_2R^{15a}$, $-C(O)R^{15a}$, $-C(O)OH$, $-C(O)OR^{15a}$, $-C(O)NH_2$, $-C(O)NHR^{15a}$, or $-C(O)N(R^{15a})_2$ substituents;

R^{15a} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, C_6 -alkyl, or R^{15b} ;

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R^{15b} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl which is substituted with one or two independently selected -F, -Cl, -Br, -I, -OH, =O, $-OR^{15c}$, $-NH_2$, $-NHR^{15c}$, or $-N(R^{15c})_2$ substituents;

R^{15c} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl;

R^{16} is furanyl, imidazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridyl, pyrimidinyl, pyrrolyl, tetraazolyl, thiazolyl, thiophenyl, or 1,2,3-triazolyl, each of which is unsubstituted or substituted with one or two or three independently selected R^{16a} , -F, -Cl, -Br, -I, -CN, -OH, $-OR^{16a}$, $-NH_2$, $-NHR^{16a}$, $-N(R^{16a})_2$, $-NO_2$, $-CF_3$, $-OCF_3$, $-SR^{16a}$, $-S(O)R^{16a}$, $-SO_2R^{16a}$, $-C(O)R^{16a}$, $-C(O)OH$, $-C(O)OR^{16a}$, $-C(O)NH_2$, $-C(O)NHR^{16a}$, or $-C(O)N(R^{16a})_2$ substituents;

R^{16a} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, C_6 -alkyl, or R^{16b} ;

R^{16b} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl, each of which is substituted with one or two independently selected -F, -Cl, -Br, -I, -OH, $-OR^{16c}$, =O, $-NH_2$, $-NHR^{16c}$, or $-N(R^{16c})_2$ substituents; and

R^{16c} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl.

3 (currently amended): A compound of claim 2 having formula (I), or a salt thereof, in which R^1 is -OH, $-OR^5$, $-NH_2$, $-NHR^5$, or $-N(R^5)_2$;

R^2 is hydrogen, tert-butyl, -O(allyl), (4-methoxyphenyl)methyl, or (2,4-dimethoxyphenyl)methyl;

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R^3 and R^4 together are thiazole ~~or pyrimidine~~, each of which is substituted with one or two independently selected R^6 , R^9 , R^{11} , $-OR^6$, $-OR^9$, $-O(CH_2)R^{11}$, $-SR^6$, $-SR^9$, $-S(CH_2)R^{11}$, $-S(O)R^6$, $-S(O)R^9$, $-S(O)(CH_2)R^{11}$, $-SO_2R^6$, $-SO_2R^9$, $-SO_2(CH_2)R^{11}$, $-CO(O)R^6$, $-CO(O)R^9$, $-C(O)OR^{11}$, $-NH_2$, $-NHR^6$, $-NHR^9$, $-NHR^{11}$, $-NHC(O)R^6$, $-NHC(O)R^9$, $-NHC(O)R^{11}$, $-NHC(O)OR^6$, $-NHC(O)OR^9$, $-NHC(O)OR^{11}$, $-NHSO_2R^6$, $-NHSO_2R^9$, $-NHSO_2R^{11}$, $-N(R^6)_2$, $-N(R^9)_2$, or $-N(R^{11})_2$ substituents;

R^5 is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl;

R^6 is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl, each of which is unsubstituted or substituted with one $-F$, $-Cl$, $-Br$, $-I$, $-OH$, $-OR^{6a}$, $-NH_2$, $-NHR^{6a}$, $-N(R^{6a})_2$, R^{12} , R^{13} , or R^{14} substituent;

R^{6a} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl;

R^9 is phenyl which is unsubstituted or substituted with one or two or three or four independently selected R^{9a} , $-F$, $-Cl$, $-Br$, $-I$, $-CN$, $-OH$, $-OR^{9a}$, $-NH_2$, $-NHR^{9a}$, $-N(R^{9a})_2$, $-NO_2$, $-CF_3$, $-OCF_3$, $-SR^{9a}$, $-S(O)R^{9a}$, $-SO_2R^{9a}$, $-C(O)R^{9a}$, $-C(O)OH$, $-C(O)OR^{9a}$, $-C(O)NH_2$, $-C(O)NHR^{9a}$, $-C(O)N(R^{9a})_2$, R^{15} , or R^{16} substituents;

R^{9a} is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl, or C_6 -alkyl;

R^{10} is furanyl, imidazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridyl, pyrimidinyl, pyrrolyl, tetraazolyl, thiazolyl, thiophenyl, or 1,2,3-triazolyl, each of which is unsubstituted or substituted with one or two or three independently selected R^{10a} , $-F$, $-Cl$, $-Br$, $-I$, $-CN$, $-OH$, $-OR^{10a}$, $-NH_2$, $-NHR^{10a}$,

$-\text{N}(\text{R}^{10\text{a}})_2$, $-\text{NO}_2$, $-\text{CF}_3$, $-\text{OCF}_3$, $-\text{SR}^{10\text{a}}$, $-\text{S}(\text{O})\text{R}^{10\text{a}}$, $-\text{SO}_2\text{R}^{10}$,
 $-\text{C}(\text{O})\text{R}^{10\text{a}}$, $-\text{C}(\text{O})\text{OH}$, $-\text{C}(\text{O})\text{OR}^{10\text{a}}$, $-\text{C}(\text{O})\text{NH}_2$, $-\text{C}(\text{O})\text{NHR}^{10\text{a}}$,
 $-\text{C}(\text{O})\text{N}(\text{R}^{10\text{a}})_2$, R^{15} , or R^{16} substituents;

$\text{R}^{10\text{a}}$ is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl,
 or C_6 -alkyl;

R^{11} is aziridinyl, azetidiny, pyrrolidinyl,
 piperidinyl, or piperazinyl, each of which is unfused or
 fused with benzene, aziridine, azetidine, pyrrolidine,
 piperidine, or piperazine, in which each ring is
 unsubstituted or substituted with one or two or three
 independently selected $\text{R}^{11\text{a}}$, $-\text{F}$, $-\text{Cl}$, $-\text{Br}$, $-\text{I}$, $-\text{CN}$, $-\text{OH}$, $=\text{O}$,
 $-\text{OR}^{11\text{a}}$, $-\text{NH}_2$, $-\text{NHR}^{11\text{a}}$, $-\text{N}(\text{R}^{11\text{a}})_2$, $-\text{NO}_2$, $-\text{CF}_3$, $-\text{OCF}_3$, $-\text{SR}^{11\text{a}}$,
 $-\text{S}(\text{O})\text{R}^{11\text{a}}$, $-\text{SO}_2\text{R}^{11\text{a}}$, $-\text{C}(\text{O})\text{R}^{11\text{a}}$, $-\text{C}(\text{O})\text{OH}$, $-\text{C}(\text{O})\text{OR}^{11\text{a}}$, $-\text{C}(\text{O})\text{NH}_2$,
 $-\text{C}(\text{O})\text{NHR}^{11\text{a}}$, $-\text{C}(\text{O})\text{N}(\text{R}^{11\text{a}})_2$, R^{15} , or R^{16} substituents;

$\text{R}^{11\text{a}}$ is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl,
 C_6 -alkyl, or $\text{R}^{11\text{b}}$;

$\text{R}^{11\text{b}}$ is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl,
 or C_6 -alkyl, each of which is substituted with one or two
 independently selected $-\text{F}$, $-\text{Cl}$, $-\text{Br}$, $-\text{I}$, $-\text{OH}$, $=\text{O}$, $-\text{OR}^{11\text{c}}$,
 $-\text{NH}_2$, $-\text{NHR}^{11\text{c}}$, or $-\text{N}(\text{R}^{11\text{c}})_2$ substituents;

$\text{R}^{11\text{c}}$ is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl,
 or C_6 -alkyl;

R^{12} is phenyl which is unsubstituted or substituted
 with one or two or three or four independently selected
 $\text{R}^{12\text{a}}$, $-\text{F}$, $-\text{Cl}$, $-\text{Br}$, $-\text{I}$, $-\text{CN}$, $-\text{OH}$, $-\text{OR}^{12\text{a}}$, $-\text{NH}_2$, $-\text{NHR}^{12\text{a}}$,
 $-\text{N}(\text{R}^{12\text{a}})_2$, $-\text{NO}_2$, $-\text{CF}_3$, $-\text{OCF}_3$, $-\text{SR}^{12\text{a}}$, $-\text{S}(\text{O})\text{R}^{12\text{a}}$, $-\text{SO}_2\text{R}^{12\text{a}}$,
 $-\text{C}(\text{O})\text{R}^{12\text{a}}$, $-\text{C}(\text{O})\text{OH}$, $-\text{C}(\text{O})\text{OR}^{12\text{a}}$, $-\text{C}(\text{O})\text{NH}_2$, $-\text{C}(\text{O})\text{NHR}^{12\text{a}}$,
 $-\text{C}(\text{O})\text{N}(\text{R}^{12\text{a}})_2$, R^{15} , or R^{16} substituents;

$\text{R}^{12\text{a}}$ is C_1 -alkyl, C_2 -alkyl, C_3 -alkyl, C_4 -alkyl, C_5 -alkyl,
 or C_6 -alkyl;

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R^{13} is furanyl, imidazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridyl, pyrimidinyl, pyrrolyl, tetraazolyl, thiazolyl, thiophenyl, or 1,2,3-triazolyl, each of which is unsubstituted or substituted with one or two or three independently selected R^{13a} , -F, -Cl, -Br, -I, -CN, -OH, -OR^{13a}, -NH₂, -NHR^{13a}, -N(R^{13a})₂, -NO₂, -CF₃, -OCF₃, -SR^{13a}, -S(O)R^{13a}, -SO₂R^{13a}, -C(O)R^{13a}, -C(O)OH, -C(O)OR^{13a}, -C(O)NH₂, -C(O)NHR^{13a}, -C(O)N(R^{13a})₂, R^{15} , or R^{16} substituents;

R^{13a} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl;

R^{14} is aziridinyl, azetidiny, pyrrolidinyl, piperidinyl, or piperazinyl, each of which is unsubstituted or substituted with one or two or three independently selected R^{14a} , -F, -Cl, -Br, -I, -CN, -OH, =O, -OR^{14a}, -NH₂, -NHR^{14a}, -N(R^{14a})₂, -NO₂, -CF₃, -OCF₃, -SR^{14a}, -S(O)R^{14a}, -SO₂R^{14a}, -C(O)R^{14a}, -C(O)OH, -C(O)OR^{14a}, -C(O)NH₂, -C(O)NHR^{14a}, -C(O)N(R^{14a})₂, R^{16} , or R^{17} substituents;

R^{14a} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl;

R^{15} is phenyl which is unsubstituted or substituted with one or two or three or four independently selected R^{15a} , -F, -Cl, -Br, -I, -CN, -OH, -OR^{15a}, -NH₂, -NHR^{15a}, -N(R^{15a})₂, -NO₂, -CF₃, -OCF₃, -SR^{15a}, -S(O)R^{15a}, -SO₂R^{15a}, -C(O)R^{15a}, -C(O)OH, -C(O)OR^{15a}, -C(O)NH₂, -C(O)NHR^{15a}, or -C(O)N(R^{15a})₂ substituents;

R^{15a} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl;

R^{16} is furanyl, imidazolyl, isothiazolyl, isoxazolyl, oxazolyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridyl,

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pyrimidinyl, pyrrolyl, tetraäzoly, thiazoly, thiophenyl, or 1,2,3-triazoly, each of which is unsubstituted or substituted with one or two or three independently selected R^{16a} , -F, -Cl, -Br, -I, -CN, -OH, -OR^{16a}, -NH₂, -NHR^{16a}, -N(R^{16a})₂, -NO₂, -CF₃, -OCF₃, -SR^{16a}, -S(O)R^{16a}, -SO₂R^{16a}, -C(O)R^{16a}, -C(O)OH, -C(O)OR^{16a}, -C(O)NH₂, -C(O)NHR^{16a}, or -C(O)N(R^{16a})₂ substituents; and

R^{16a} is C₁-alkyl, C₂-alkyl, C₃-alkyl, C₄-alkyl, C₅-alkyl, or C₆-alkyl.

4 (cancelled)

5 (cancelled)

~~6 (original): A compound of claim 1 having formula (I), or a salt thereof, in which R¹ is -OH or -O(ethyl); R² is hydrogen; and R³ and R⁴ together are 2-(aminomethyl)-piperidin-1-yl[1,3]thiazolo, 2-(amino-methyl)pyrrolidin-1-yl[1,3]thiazolo, 3-aminopiperidin-1-yl[1,3]thiazolo, 4-bromo-3-methyl-anilino[1,3]thiazolo, 4-(2-chlorophenyl)piperazin-1-yl[1,3]thiazolo, ((3,4-dimethoxyphenyl)ethyl)(methyl)amino[1,3]thiazolo, 2-fluoro-4-methylanilino[1,3]thiazolo, or 3-fluoro-4-methylanilino[1,3]thiazolo.~~

7 (original): A compound of claim 1 having formula (I), or a salt thereof, in which R¹ is -OH or -O(ethyl); R² is hydrogen; and R³ and R⁴ together are together are

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4-(2-fluorophenyl)piperazin-1-yl[1,3]thiazolo, 1H-indazol-4-ylamino[1,3]thiazolo, methyl(2-phenylethyl)amino-[1,3]thiazolo, 4-(methylsulfanyl)anilino-[1,3]thiazolo, 4-propoxyanilino[1,3]thiazolo, or pyrrolidin-1-yl[1,3]thiazolo.

8 (original): A composition for treating bacterial infection in a fish or a mammal, the composition comprising a therapeutically effective amount of a compound of claim 1 and an excipient.

9 (cancelled)

10 (currently amended): A compound of claim 1 having formula (I), or a salt thereof, which is

~~2-(3-(aminomethyl)pyrrolidin-1-yl)-4-(4-methoxybenzyl)-7-oxo-4,7-dihydro[1,3]thiazolo[4,5-b]pyridine-6-carboxylic acid,~~

2-(3-aminopiperidin-1-yl)-7-oxo-4,7-dihydro[1,3]thiazolo[4,5-b]pyridine-6-carboxylic acid,

2-(3-(aminomethyl)piperidin-1-yl)-7-oxo-4,7-dihydro[1,3]thiazolo[4,5-b]pyridine-6-carboxylic acid,

2-(methyl(2-phenylethyl)amino)-7-oxo-4,7-dihydro[1,3]thiazolo[4,5-b]pyridine-6-carboxylic acid,

2-((2-(3,4-dimethoxyphenyl)ethyl)(methyl)amino)-7-oxo-4,7-dihydro[1,3]thiazolo[4,5-b]pyridine-6-carboxylic acid,

2-(4-(2-fluorophenyl)piperazin-1-yl)-7-oxo-4,7-dihydro[1,3]thiazolo[4,5-b]pyridine-6-carboxylic acid,

2-(4-(2-chlorophenyl)piperazin-1-yl)-7-oxo-4,7-dihydro[1,3]thiazolo[4,5-b]pyridine-6-carboxylic acid,

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2-(2-fluoro-4-methylanilino)-7-oxo-4,7-dihydro[1,3]thiazolo[4,5-b]pyridine-6-carboxylic acid,
2-(3-fluoro-4-methylanilino)-7-oxo-4,7-dihydro[1,3]thiazolo[4,5-b]pyridine-6-carboxylic acid,
2-(4-bromo-3-methylanilino)-7-oxo-4,7-dihydro[1,3]thiazolo[4,5-b]pyridine-6-carboxylic acid
7-oxo-2-(4-propoxyanilino)-4,7-dihydro[1,3]thiazolo[4,5-b]pyridine-6-carboxylic acid or
2-(4-(methylsulfanyl)anilino)-7-oxo-4,7-dihydro[1,3]thiazolo[4,5-b]pyridine-6-carboxylic acid
~~2-(pyrrolidin-1-yl)-5-oxo-5,8-dihydro[2,3-d]-pyrimidinopyridine-6-carboxylic acid,~~
~~2-(azetidin-1-yl)-5-oxo-5,8-dihydro[2,3-d]-pyrimidinopyridine-6-carboxylic acid~~
~~2-(3-aminopyrrolidin-1-yl)-5-oxo-5,8-dihydro[2,3-d]pyrimidinopyridine-6-carboxylic acid,~~
~~4-amino-5-oxo-2-(pyrrolidin-1-yl)-5,8-dihydro[2,3-d]pyrimidinopyridine-6-carboxylic acid,~~
~~2-(azetidin-1-yl)-4-amino-5-oxo-5,8-dihydro[2,3-d]pyrimidinopyridine-6-carboxylic acid,~~
~~ethyl 2-(3-aminopyrrolidin-1-yl)-4-amino-5-oxo-5,8-dihydro[2,3-d]pyrimidinopyridine-6-carboxylate,~~
~~2-(3-aminopyrrolidin-1-yl)-4-amino-5-oxo-5,8-dihydro[2,3-d]pyrimidinopyridine-6-carboxylic acid, or~~
~~2-(1-benzylhexahydropyrrolo[3,4-b]pyrrol-5(1H)-yl)-4-amino-5-oxo-5,8-dihydropyrido[2,3-d]pyrimidine-6-carboxylic acid.~~